

What is claimed is:

CLAIMS

1. A box joint fixture for use with a saw having a dado blade that is adapted for cutting a plurality of dado cuts in a pair of boards sufficient to form a box joint intermediate said pair of boards, comprising:

- (a) a support member;
- (b) an elliptical pin having a longitudinal length and a substantially oval cross-section, said elliptical pin attached to said support member; and
- (c) means adapted for setting an offset distance from said elliptical pin to said dado blade in said saw;
- (d) wherein said offset distance is adapted for use with each of a plurality of remaining dado cuts to be made in said pair of boards.

2. The box joint fixture of claim 1 wherein said support member includes a vertical member and a horizontal member and including a vertical slot in said vertical member, said elliptical pin adapted to be displaced vertically in said vertical slot.

3. The box joint fixture of claim 1 wherein said support member includes a vertical member and a horizontal member and an insert assembly, and including an opening at a bottom of said support member adapted to allow passage of said dado blade therein, said insert assembly disposed in said vertical member and including a pair of parallel vertical slots that are disposed a predetermined distance apart from each other and including a vertical slot in said insert assembly, said elliptical pin adapted to be displaced vertically in said vertical slot.

4. The box joint fixture of claim 3 including an offset insert, said offset insert adapted for insertion in said pair of vertical slots and adapted to be displaced vertically along the length thereof to a bottom of said insert assembly, said offset insert including an upside-down substantially U-shaped bottom opening that aligns with a portion of said opening in said support member when said offset insert is disposed at a bottom of said insert assembly, said offset insert including an offset from a center of said elliptical pin to an edge in said substantially U-shaped bottom that is disposed closest to said elliptical pin, and wherein said offset corresponds with a nominal kerf of said dado blade.

5. The box joint fixture of claim 4 wherein said support member includes means for adjusting a position of said support member either closer to or further away from said dado blade.

6. The box joint fixture of claim 5 wherein said means for adjusting a position of said support member includes a rear member that is adapted to be attached to a miter of said saw, and wherein said rear member is slideably attached to said support member sufficient to displace said support member perpendicular with respect to a plane of said dado blade an amount sufficient to locate an edge of said dado blade that is disposed closest to said elliptical pin adjacent to said edge in said substantially U-shaped bottom that is disposed closest to said elliptical pin.

7. The box joint fixture of claim 6 including means for securing said support member to said rear member sufficient to retain said offset.

8. The box joint fixture of claim 2 including a backer board that is adapted to be disposed in said pair of vertical slots and wherein, when said backer board is disposed in said pair of vertical slots, said backer board includes a surface that is flush with a surface of said vertical board, and wherein said backer board is adapted to be cut by said dado blade.

9. The box joint fixture of claim 3 wherein said insert assembly includes means for fastening said insert assembly to said support member.

10. The box joint fixture of claim 4 wherein said offset insert includes a plurality of offset inserts, each of said plurality of offset inserts including an offset that corresponds with a kerf of a different width dado blade.

11. The box joint fixture of claim 2 wherein said vertical member includes a saw dust recess that extends along a longitudinal length of said vertical member proximate an intersection of said vertical member and said horizontal member.

12. The box joint fixture of claim 4 including means for preventing the use of said box joint fixture to cut said dado when said offset insert is disposed in said insert assembly.

13. The box joint fixture of claim 12 wherein said means for preventing the use of said box joint fixture includes means for preventing a surface of either of said pair of boards from being disposed adjacent to said vertical member when said offset insert is disposed in said insert assembly.

14. A box joint fixture for use with a router table having a cutting instrument attached thereto that is adapted for cutting a plurality of dado cuts in a pair of boards sufficient to form a box joint intermediate said pair of boards, comprising:

- (e) a support member;
- (f) an elliptical pin having a longitudinal length and a substantially oval cross-section, said elliptical pin attached to said support member; and

- (g) means adapted for setting an offset distance from said elliptical pin to said cutting instrument;
- (h) wherein said offset distance is adapted for use with each of a plurality of remaining dado cuts to be made in said pair of boards.

15. A method for forming a box joint in an end of a first and second board, comprising the steps of:

a) providing a box joint fixture for use with a woodworking power tool having a cutting instrument that is adapted for cutting a plurality of dado cuts in a pair of boards sufficient to form a box joint intermediate said pair of boards, comprising:

- (1) a support member;
- (2) an elliptical pin having a longitudinal length and a substantially oval cross-section, said elliptical pin attached to said support member; and
- (3) means adapted for setting an offset distance from said elliptical pin to said cutting instrument in said woodworking power tool;

(4) wherein said offset distance is adapted for use with each of a plurality of remaining dado cuts to be made in said pair of boards.

b) placing an edge of a first of said two boards against said elliptical pin and making a first dado cut in said first board;

c) reversing said first board and placing said first dado cut over said elliptical pin;

d) placing an edge of a second of said two boards against said edge of said first board and making a second dado cut in said second board;

e) placing said second dado cut of said second board over said elliptical pin;

f) reversing said first board and placing said first board adjacent to said second board with said first dado cut disposed over said elliptical pin and making a third dado cut simultaneously in said first and second boards;

g) placing said third dado cut of said first and second boards on said elliptical pin and making an additional dado cut simultaneously in said first and said second boards;

h) repeating the above step until all possible dado cuts have been made simultaneously in said first and said second boards; and

i) placing the last dado cut made in said second board on said elliptical pin and making a final dado cut in said second board.